

§ 192.03

environment of alternate concentration limits, the following factors shall be considered:

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of constituents in the residual radioactive material at the site, including their potential for migration;

(ii) The hydrogeological characteristics of the site and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the region surrounding the site;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to constituents;

(ix) The persistence and permanence of the potential adverse effects;

(x) The presence of underground sources of drinking water and exempted aquifers identified under §144.7 of this chapter; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) The volume and physical and chemical characteristics of the residual radioactive material at the site;

(ii) The hydrogeological characteristics of the site and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the site to surface waters;

(vi) The current and future uses of surface waters in the region surrounding the site and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and their cumulative impact on surface water quality;

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(viii) The potential for health risks caused by human exposure to constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to constituents; and

(x) The persistence and permanence of the potential adverse effects.

(4) Point of compliance: The point of compliance is the location at which the groundwater concentration limits of paragraph (c)(3) of this section apply. The point of compliance is the intersection of a vertical plane with the uppermost aquifer underlying the site, located at the hydraulically downgradient limit of the disposal area plus the area taken up by any liner, dike, or other barrier designed to contain the residual radioactive material.

(d) Each site on which disposal occurs shall be designed and stabilized in a manner that minimizes the need for future maintenance.

[60 FR 2865, Jan. 11, 1995]

§ 192.03 Monitoring.

A groundwater monitoring plan shall be implemented, to be carried out over a period of time commencing upon completion of remedial actions taken to comply with the standards in §192.02, and of a duration which is adequate to demonstrate that future performance of the system of disposal can reasonably be expected to be in accordance with the design requirements of §192.02(c). This plan and the length of the monitoring period shall be modified to incorporate any corrective actions required under §192.04 or §192.12(c).

[60 FR 2866, Jan. 11, 1995]

§ 192.04 Corrective action.

If the groundwater concentration limits established for disposal sites under provisions of §192.02(c) are found or projected to be exceeded, a corrective action program shall be placed into operation as soon as is practicable, and in no event later than eighteen (18) months after a finding of exceedance. This corrective action program will restore the performance of the system of disposal to the original concentration limits established under

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§ 192.02(c)(3), to the extent reasonably achievable, and, in any case, as a minimum shall:

(a) Conform with the groundwater provisions of § 192.02(c)(3), and

(b) Clean up groundwater in conformance with subpart B, modified as appropriate to apply to the disposal site.

[60 FR 2866, Jan. 11, 1995]

TABLE 1 TO SUBPART A OF PART 192—
MAXIMUM CONCENTRATION OF CON-
STITUENTS FOR GROUNDWATER PRO-
TECTION

Constituent concentration ¹	Maximum
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.01
Silver	0.05
Nitrate (as N)	10.
Molybdenum	0.1
Combined radium-226 and radium-228	5 pCi/liter
Combined uranium-234 and uranium-238 ² .	30 pCi/liter
Gross alpha-particle activity (excluding radon and uranium).	15 pCi/liter
Endrin (1,2,3,4,10,10-hexachloro-6,7-exposy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethanonaphthalene).	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer).	0.004
Methoxychlor (1,1,1-trichloro-2,2'-bis(p-methoxyphenylethane)).	0.1
Toxaphene (C ₁₀ H ₁₀ Cl ₆ , technical chlorinated camphene, 67–69 percent chlorine).	0.005
2,4-D (2,4-dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-trichlorophenoxypropionic acid).	0.01

¹ Milligrams per liter, unless stated otherwise.

² Where secular equilibrium obtains, this criterion will be satisfied by a concentration of 0.044 milligrams per liter (0.044 mg/l). For conditions of other than secular equilibrium, a corresponding value may be derived and applied, based on the measured site-specific ratio of the two isotopes of uranium.

[60 FR 2866, Jan. 11, 1995]

Subpart B—Standards for Cleanup of Land and Buildings Contaminated with Residual Radioactive Materials from Inactive Uranium Processing Sites

§ 192.10 Applicability.

This subpart applies to land and buildings that are part of any processing site designated by the Secretary of Energy under section 102 of the Act.

section 101 of the Act, states, in part, that “processing site” means—

(a) Any site, including the mill, containing residual radioactive materials at which all or substantially all of the uranium was produced for sale to any Federal agency prior to January 1, 1971, under a contract with any Federal agency, except in the case of a site at or near Slick Rock, Colorado, unless—

(1) Such site was owned or controlled as of January 1, 1978, or is thereafter owned or controlled, by any Federal agency, or

(2) A license (issued by the (Nuclear Regulatory) Commission or its predecessor agency under the Atomic Energy Act of 1954 or by a State as permitted under section 274 of such Act) for the production at site of any uranium or thorium product derived from ores is in effect on January 1, 1978, or is issued or renewed after such date; and

(b) Any other real property or improvement thereon which—

(1) Is in the vicinity of such site, and

(2) Is determined by the Secretary, in consultation with the Commission, to be contaminated with residual radioactive materials derived from such site.

§ 192.11 Definitions.

(a) Unless otherwise indicated in this subpart, all terms shall have the same meaning as defined in subpart A.

(b) *Land* means any surface or subsurface land that is not part of a disposal site and is not covered by an occupiable building.

(c) *Working Level (WL)* means any combination of short-lived radon decay products in one liter of air that will result in the ultimate emission of alpha particles with a total energy of 130 billion electron volts.

(d) *Soil* means all unconsolidated materials normally found on or near the surface of the earth including, but not limited to, silts, clays, sands, gravel, and small rocks.

(e) *Limited use groundwater* means groundwater that is not a current or potential source of drinking water because (1) the concentration of total dissolved solids is in excess of 10,000 mg/l,